NV Energy Overview

- Two operating utility companies:
  - Nevada Power Company (NV Energy South) (Las Vegas)
  - Sierra Pacific Power Company (NV Energy North) (Reno)
- Serves 2.5 million Nevadans
- 5,700 MW load in South
- 1,600 MW load in North
## 2013 Budgets & Targets

<table>
<thead>
<tr>
<th>2013 Approved DSM Programs</th>
<th>South Budget</th>
<th>kWh Targets</th>
<th>North Budget</th>
<th>kWh Targets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy Efficient Pools and Spas</td>
<td>$1,500,000</td>
<td>8,250,000</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Residential High Efficiency Air Conditioning</td>
<td>$12,000,000</td>
<td>31,000,000</td>
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<td>NA</td>
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<tr>
<td>Low Income Weatherization</td>
<td>$500,000</td>
<td>500,000</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Second Refrigerator Collection and Recycling</td>
<td>$1,200,000</td>
<td>6,200,000</td>
<td>$500,000</td>
<td>2,950,000</td>
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<tr>
<td>Residential Solar Thermal Water Heating</td>
<td>$100,000</td>
<td>60,000</td>
<td>$100,000</td>
<td>50,000</td>
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<tr>
<td><strong>Residential Total</strong></td>
<td>$15,300,000</td>
<td>46,010,000</td>
<td>$600,000</td>
<td>3,000,000</td>
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<tr>
<td>Non-Profit Agency Grants</td>
<td>$100,000</td>
<td>240,000</td>
<td>$110,000</td>
<td>270,000</td>
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<tr>
<td>Commercial Incentives</td>
<td>$9,700,000</td>
<td>64,000,000</td>
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<td>NA</td>
</tr>
<tr>
<td>Commercial New Construction</td>
<td>NA</td>
<td>NA</td>
<td>$600,000</td>
<td>3,400,000</td>
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<tr>
<td>Commercial Retrofit Incentives</td>
<td>NA</td>
<td>NA</td>
<td>$3,150,000</td>
<td>26,000,000</td>
</tr>
<tr>
<td>Energy Smart Schools</td>
<td>$1,300,000</td>
<td>6,000,000</td>
<td>$400,000</td>
<td>1,600,000</td>
</tr>
<tr>
<td><strong>Commercial Total</strong></td>
<td>$11,100,000</td>
<td>70,240,000</td>
<td>$4,260,000</td>
<td>31,270,000</td>
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<tr>
<td>Energy Education and Consultation</td>
<td>$400,000</td>
<td>NA</td>
<td>$250,000</td>
<td>NA</td>
</tr>
<tr>
<td>Market and Technology Trials</td>
<td>$400,000</td>
<td>NA</td>
<td>$100,000</td>
<td>NA</td>
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<tr>
<td><strong>Total Other</strong></td>
<td>$800,000</td>
<td>0</td>
<td>$350,000</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total Energy Efficiency</strong></td>
<td>$27,200,000</td>
<td>116,250,000</td>
<td>$5,210,000</td>
<td>34,270,000</td>
</tr>
<tr>
<td>Demand Response</td>
<td>$17,350,000</td>
<td>8,170,000</td>
<td>$800,000</td>
<td>NA</td>
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<tr>
<td><strong>Total Demand Response</strong></td>
<td>$17,350,000</td>
<td>8,170,000</td>
<td>$800,000</td>
<td>0</td>
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<tr>
<td><strong>Total Demand Side Programs</strong></td>
<td>$44,550,000</td>
<td>124,420,000</td>
<td>$6,010,000</td>
<td>34,270,000</td>
</tr>
</tbody>
</table>
Pool Pumps

- KWh savings up to 80% with most at least 50%
- Savings are mechanical and behavioral
- kW is proportional to the cube of the pump speed
- Flow is proportional to pump speed
- One half flow for twice as long = 50% kWh savings
- High efficiency motor
- Only need 1 turn per day (Full gallon volume of pool)
- Pool pumps are programmed to only operate off system peak hours
- $2-300 rebate to retailer (Instant rebate at purchase)
- Pool builder participation recovering
HVAC- Check Me

- Co-marketing with mPowered program (Demand Response) to increase customer participation and economies of scale for both programs
- Target marketing multi-family and mobile homes for duct testing and sealing to increase cost effectiveness and energy savings of the program
- Increased threshold for Duct Test and Seal to 18% leakage reduction
- Early replacement and Western Cooling Control
- Low Income Program
  - Same measures offered
mPowered Offer*:

- **FREE** intelligent thermostat
- **FREE** professional installation
- **FREE** web-based energy optimization service
- **FREE** online and mobile access to your thermostat

* Limited Time Offer - Basic subscription fee waived for eligible customers who enroll in mPowered by 12/31/13
Demand Response Education

- 80 people show up for flight
- Bombardier CRJ-700 only seats 70 people
- Airline pays (e.g., ticket vouchers) 10 people to take later flight

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Demand Response Education

- Power grid needs 80 MW.
- Power grid only has 70 MW.
- Power grid pays consumers to reduce 10 MW to balance supply & demand.
Commercial Incentives

Program Highlights

- **Complete:**
  - City of Las Vegas LED Street light replacement – 15,000,000 kWh project paid in 2013

- **In Progress:**
  - Tropicana Chiller Replacement – 4,500,000 kWh
  - Convention Center lighting retrofit – 5,700,000 kWh
  - Monte Carlo lighting retrofit – 4,500,000 kWh
  - Aria Resort lighting retrofit – 3,300,000 kWh
  - Zappos major remodeling project – 1,500,000 kWh

- EE/DR- Advanced Lighting Control System roundtable with market players

- Implemented Pre-Construction Meetings to improve communication between implementer, evaluator, customer, contractor, and utility.
Preconstruction Meeting

- Greater than 500,000 kWh
- New or Difficult to Measure

No

Standard Engineering Review

Yes

Preconstruction Meeting
### Improved M&V Communications

<table>
<thead>
<tr>
<th>Applied Measures:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Measure Category</td>
<td>Installed Measures</td>
</tr>
<tr>
<td>------</td>
<td>-------------------</td>
</tr>
<tr>
<td>Prescriptive x</td>
<td>Lighting</td>
</tr>
<tr>
<td>Custom -</td>
<td>Cooling</td>
</tr>
<tr>
<td>Gas -</td>
<td>Refrigeration</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Project Summary (DNV KEMA):
- Include type of technology and proposed baseline

#### Measure Description (DNV KEMA):
- New Tech: Yes/No

#### Review Requested:
- Date:
- By:
- Course of Action Recommended:
  - Baseline Assumption: DNV KEMA:
  - Saving Calculation Approaches: ADM:
  - Key Parameters & I.D. Methods: ADM:
  - Customer Requirements: DNV KEMA:
  - Other (Please Describe): ADM:
Non-Profit Grants

- Dedicated resource for non-profit
- Leverage existing contractors
- Streamline application process
- Provide customer & technical support
- Highlight success stories
Energy Smart Schools

- Technical assistance fills a void
- Projects have several year lead time and work is cyclical
- Personal Computer Power Management project with several school districts north and south
- Expanding to include Nevada System of Higher Education and private schools
- Direct install and ESCO options provides program flexibility

REDUCING ENERGY USE BY SHUTTING DOWN INACTIVE COMPUTERS

Clark County School District (CCSD) has nearly 100,000 computers. The rebate fully funded the program. The power management program will save the district over $1,000,000 annually!
Energy Education

Program Highlights

- **Building Industry Support** - Code Compliance Training, Above Code Program, Realtor Training

- **Commercial Customer Education** - Focus Groups, Manufacturing Conference, Association of Energy Engineers - Energy Management Congress

- **Residential Customer Education** - Nevada EnergyWise Educators, STEM Collaborative, Community Events
NV EnergyWise Educators

- Community collaboration:
  - NV System of Higher Education- Desert Research Institute
  - Southwest Gas
  - Energy Fit- Home Performance with EnergyStar
  - USGBC Nevada
  - Southern Nevada Regional Planning Commission

- Supported by statewide STEM Teacher Collaborative

- Next Generation Science Standards compliant
Program Overview:

- Provides teacher training that meets continuing education credits.
- Supports classroom implementation of the class materials with Green Boxes shipped at no cost to teachers.
- Provides industry speakers to classrooms.
- Provides field trips to sustainable commercial facilities such as the Venetian.
- Trained 84 teachers and educated more than 2,800 students statewide.
NV EnergyWise Educators

- “Your presentation made me realize that saving the environment can also save money and it got rid of the rumors that being environmentally friendly is costly”
- “Your presentation impressed me because right when I got home I told my parents about your presentation and we checked our house to see if we were wasting energy and now I know what to do later on in years when I am on my own”
- “I actually asked my mom about me buying a new showerhead and light bulbs and her giving me $20 each month. She agreed!”
Realtor Education

Residential Green and Energy Efficient Addendum

UNLOCKING the full value of GREEN HOMES

A Homebuyer's Top Ten Priorities.

Yesterday

1. Square footage? (larger is better)
2. How many bedrooms/bathrooms?
3. What size lot?
4. How many stories?
5. Is there granite countertops?
6. What size garage?
7. Does it have a pool?
8. Does it have a view?
9. Flooring type?
10. Are the appliances new?

Tomorrow

1. Square footage? (what is my cost to operate?)
2. How many bedrooms/bathrooms?
3. What size lot? (is it WaterSmart?)
4. Is it ENERGY STAR/LEED/Home Performance w/ ENERGY STAR?
5. How efficient is the HVAC System?
6. What is the insulation's 'R' Value?
7. What is the HERS score on this home?
8. How efficient are the window/appliances/pool equipment?
10. Do I qualify for an Energy Efficient Mortgage? (green loans)
U.S. DOE Solar Decathlon
Team UNLV- Desert Sol

10 CONTESTS X 100 POINTS = 1000 POINTS TOTAL
(100 points per contest)

JURIED*
Architecture
Market Appeal
Engineering
Communications
Affordability

MEASURED**
Home Entertainment
Comfort Zone
Hot Water
Appliances
Energy Balance

*Contests based on jury evaluation are called juried contests.
**Contests based on task completion or measured performance are called measured contests.

Net Zero Home